WHAT WE CLAIM IS:

1. A mechanical picker for use in collecting asparagus spears, including

a picking assembly, and

a picking assembly carriage,

characterised in that

Once the spear of asparagus has been selected to be picked, the picking assembly carriage continues to move forward with respect to the ground and the picking assembly moves backwards with respect to the picking assembly carriage so as to stay in a virtually static position during the picking operation with respect to the spear of asparagus that has been selected to be picked.

2. A mechanical picker as claimed in claim 1 wherein the picking assembly carriage is towed by a host vehicle.

3. A mechanical picker as claimed in claim 1 wherein the picking assembly carriage provides independent locomotion with respect to the ground.

4. A mechanical picker as claimed in any one of claim 1, wherein the picking assembly includes

an asparagus gripping assembly, and

an asparagus severing assembly, and

a horizontal position locating assembly,

characterised in that

once a spear has been located by the horizontal position locating assembly, the picking assembly stays in a virtually static position with respect to the spear until after the spear has been severed from the plant.

5. A mechanical picker as claimed in claim 4 wherein the asparagus gripping assembly is constructed of two forward pointing tines fitted with an integral inflatable bladder that inflates to secure an asparagus spear when the spear is in the correct position between the tines.

6. A mechanical picker as claimed in claim 4 wherein the asparagus severing assembly is constructed using a knife that can move forward in such a manner that it severs the asparagus spear at the required location on the spear and then retracts into its initial position.

7. A mechanical picker as claimed in claim 4 including

a minimum height determining assembly

characterised in that

the minimum height determining assembly ascertains whether or not the asparagus spear beneath the mechanical picker is of a height greater than the minimum height required.

8. A mechanical picker as claimed in claim 7 wherein the horizontal position locating assembly is constructed of two parts,

a) the main horizontal position locating assembly is constructed as part of the minimum height determining assembly, and

b) the fine tuning of the horizontal position locating is achieved by using a V-shaped pair of tines joined at their intersection to a position sensing

device consisting of a number of sensors which determine whether or not the asparagus spear located between the tines is to the right, or to the left, of the centreline and the position sensing device can also detect when the asparagus spear is in the correct position to be cut.

9. A mechanical picker as claimed in claim 4 wherein the required position of the asparagus severing assembly is determined by a proximity sensor that determines vertical position of the severing assembly with respect to the ground.

10. A mechanical picker as claimed in claim 9 wherein the proximity sensor is an integral part of the asparagus severing assembly.

11. A method of automatically picking asparagus spears by using a mechanical picker, which has a picking assembly carriage and a picking assembly, including

an asparagus spear minimum height determining assembly, and

a horizontal position locating assembly, and

an asparagus gripping assembly, and

an asparagus severing assembly,

characterised by the steps of

a) moving the mechanical picker over a set of asparagus plants, and

b) determining, by use of the minimum height determining assembly, when the mechanical picker is located above an asparagus spear with a height greater than the minimum height required, and

c) ensuring the picking assembly stays virtually static with respect to the asparagus spear whilst the picking assembly carriage continues to move over the set of asparagus plants, and

d) using the horizontal position locating assembly to locate the horizontal position of the asparagus spear with respect to the gripping and severing assemblies, and

e) moving the asparagus gripping assembly and the asparagus severing assembly with respect to the asparagus spear until they are in their optimum position for gripping and severing the asparagus spear, and

f) securing the asparagus spear in its' position by using the asparagus gripping assembly to grip the asparagus spear whilst the asparagus severing assembly severs the asparagus spear from the parent plant, and

g) moving the picking assembly forward along the picking assembly carriage until it either aligns with another spear that is required to be picked or it returns to its primary position towards the front of the picking assembly carriage.

12. A method of automatically picking asparagus spears by using a mechanical asparagus picker as claimed in claim 7, wherein the asparagus spear minimum height determining assembly includes a laser assembly that is fitted close to the front of the picking assembly carriage.